REMARKS

The claims remaining in this patent application following amendment continue to be Claims 29 and 32-34. Claims 29, 32 and 33 have been amended. No claims have been added or cancelled.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westervelt, et al. (3,872,712) in view of Rogers, et al. (5,239,858) and Arnaud, et al. (4,198,374). This rejection is respectfully traversed. Nevertheless, Independent Claim 29 has once again been amended to more clearly distinguish the applicants' method and the advantages thereof from the aforementioned patents that have been cited by the Examiner. More particularly, Independent Claim 29, amended, recites a method for testing the fuel vapor recovery system of a motor vehicle after said system is closed and pressurized. The applicants' method uses a moving ball gas flow meter connected to a source of inert gas (see page 13, lines 17-19 of the applicants' specification) for first establishing a leak tolerance standard and then pressurizing and testing the fuel vapor recovery system to provide an indication of the size of a leak formed therein so that the actual leak size can be compared to the previously determined leak tolerance standard.

As has already been pointed out during the prosecution of this application, the fuel vapor recovery system of a motor vehicle creates a potentially volatile and hazardous environment for workmen who will perform the leak test. As a consequence of the proximity of the combustible vapors emitted by the vapor recovery system to the leak testing equipment, a spark or flash point generated during testing could ignite an explosion. To overcome this problem, the applicants' claimed method uses an inert gas (e.g., nitrogen or carbon dioxide) to pressurize the fuel vapor recovery system under test. Such an inert gas is non-reactive and will not support combustion in the potentially hazardous environment within which the test equipment and the fuel vapor recovery system are located. Contrast this advantage with the teachings of Westervelt where air may be used. As is well known to those skilled in the art, air is not an inert gas, is reactive, can

oxidize and will sustain combustion. Therefore, an explosion is far less likely to occur when an inert gas, like that claimed by the applicants, is used during leak testing, as opposed to air, as has been proposed by Westervelt.

Independent Claim 29, amended, also recites the step of:

> visually observing the ball position of the gas flow meter <u>with the gas supply line and the gas flow meter connected to the closed and pressurized flow vapor recovery system under test</u> to provide an indication of the size of the leak thereof…

In other words, the applicants' gas flow meter is connected to the fuel vapor recovery system under test to provide an indication of the size of a leak formed therein. A careful inspection of the teachings of Westervelt reveals that a flow meter (17) described therein is used to provide an indication of pressure drop for the purpose of <u>calibrating</u> the test equipment <u>prior to testing</u>. In fact, the flow meter of Westervelt is <u>not used</u> during actual testing. Therefore, it is important to recognize that the applicants' claimed method requires that a flow meter and a gas supply line (to which an inert gas is supplied) be connected to the system under test so that a visual indication of the size of a leak will be provided. On the other hand, the flow meter of Westervelt in only used for calibrating the test apparatus to set accept/reject limits. At <u>no time</u> is the flow meter of Westervelt connected in order to provide a visual indication of the size of a leak in a system under test.

As was also previously pointed out during the prosecution of this application, it is highly doubtful that the comparator system of Westervelt would be used by those skilled in the art to test for leaks in a fuel vapor recovery system of a motor vehicle <u>regardless</u> of the flow meter of Westervelt and the function thereof. More particularly, the electrical modules used by Westervelt are shown and described as being powered by 110 volts (see, for example, FIG. 5). Such a relatively high 110 volt operating system and the solenoids, electrical switches, socketed

lamps, and master relay controlled thereby and specifically taught by Westervelt are known to be unsafe in an explosive environment because of the potential for arcing. Moreover, the cabinet described by Westervelt is of "monoque construction," such that all of these electrical devices are arranged in close proximity to one another so as to pose a high risk of explosion should gases from the system under test vent into the cabinet (see, for example, column 2, lines 40-46). Accordingly, without a complete redesign and reinvention thereof, the comparator system shown and described by Westervelt would likely be avoided by those of reasonable skill when a method of reduced risk is desired to test for the presence of leaks in a fuel vapor recovery system in a potentially hazardous and explosive environment like that claimed by the applicants.

In this same regard, the applicants' method as recited in Independent Claim 29, amended, includes testing for leaks in a fuel vapor recovery system that is first closed and then pressurized by an inert gas. While Rogers, et al. describes a flow meter connected to a source of helium gas under pressure, the application of this flow meter is completely unlike the application of the flow meter claimed by the applicants. That is, the flow meter of Rogers is not used to test for leaks in any system. The flow meter of Rogers is otherwise used to monitor the flow integrity of a fuel evaporative system by measuring the volume of gas flowing between the intake of the system and an exhaust. However, such flow integrity can only be tested while the vehicle is running, and, therefore, unlike the method claimed by the applicants, the fuel evaporative system under test by Rogers <u>must not be closed</u>. Thus, neither Westervelt nor Rogers nor any combination thereof teaches, shows or suggests the use of a flow meter connected to a closed and pressurized fuel vapor recovery system of a motor vehicle at the time of testing to provide a visual indication of the size of a leak formed therein.

While it may be that Arnaud, et al. makes a casual reference to a flow meter having a moving indicator ball, there is absolutely no suggestion which would motivate or encourage one of ordinary skill in the art to connect such a flow meter and an inert gas supply line to a closed

fuel vapor recovery system of a motor vehicle to provide a visual indication of a leak formed in said system depending upon the ball position of the gas flow meter.

Therefore, it is submitted that Independent Claim 29, amended, is distinguishable from any reasonable combination of Westervelt, et al. in view of Rogers, et al. and Arnaud, et al. Inasmuch as Independent Claim 29 is believed to be patentable, Claims 32-34, which depend therefrom, are likewise believed to be patentable.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over the aforementioned patent to Westervelt, et al. as modified by the aforementioned patents to Rogers, et al. and Arnaud, et al. in further view of the patent to Mieczkowski, et al. (5,898,108). Despite this complex matrix of patents cited by the Examiner, it is pointed out that Claim 32 is dependent from Independent Claim 29. Inasmuch as Independent Claim 29, amended, is believed to be patentable, Claim 32 is likewise believed to be patentable. Nevertheless, and unlike that suggested by the Examiner in the Office Action, EPA regulations do not require that nitrogen gas be used for a leak testing application. It is known in the past to use compressed air (i.e., shop air) for certain leak testing applications. There is simply nothing in the teachings of Mieczkowdki which would lead one of reasonable skill to substitute inert nitrogen (or carbon dioxide) gas for non-inert air for the purpose of pressurizing a closed fuel vapor recovery system in order to detect for leaks while avoiding the risk of an explosion in a potentially hazardous environment.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over the aforementioned patent to Westervelt, et al. as modified by the aforementioned patents to Rogers, et al. and Arnaud, et al. in further view of the patent to Adams (4,462,249). Despite this additional complex matrix of patents cited by the Examiner, it is pointed out that Claim 33 is dependent from Independent Claim 29. Inasmuch as Independent Claim 29, amended, is believed to be patentable, Claim 33 is likewise believed to be patentable.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over the aforementioned patent to Westervelt, et al. as modified by the aforementioned patents to Rogers, et al. and Arnaud, et al. in further view of the patent to Toback (3,822,585). Despite yet another complex matrix of patents cited by the Examiner, it is further pointed out that Claim 34 is dependent from Independent Claim 29. Inasmuch as Independent Claim 29, amended, is believed to be patentable, Claim 34 is likewise believed to be patentable.

In view of all of the foregoing, each of Claims 29 and 32-34 remaining in this patent application is believed to recite a patentable method over all of the cited patents when taken individually or in combination. Accordingly, reconsideration of the Examiner's rejection is requested and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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